Review of Prototype nation: China and the contested promise of innovation, Silvia M. Lindtner, Princeton, NJ, and Oxford: Princeton University Press, 2020

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DOI: https://doi.org/10.1017/S0305741021000291

Prototype Nation: China and the Contested Promise of Innovation
SILVIA M. LINDTNER
Princeton and Oxford: Princeton University Press, 2020
288 pp. £20.00; $24.95
ISBN 978-0-691-20767-4

What if everyone could make their own technologies, intervening at scale and challenging dominant economic and socio-political structures of inequality, exploitation and injustice? Based on multi-sited research in experimental work spaces in China, the United States and other places, Silvia M. Lindtner traces the often highly contradictory 'affect of intervention' attached to 'making'. Her focus is the global 'maker movement', which has its origins in ideas of open source hardware and electronics hacking that began to circulate in the 1990s in the alleged global centres of innovation such as Silicon Valley. The movement gained traction after the financial crisis of 2007-8, amidst a growing sense of precarity as well as disillusionment with digital technology and the idea that technology would provide solutions to everything. The movement's central promise was that 'prototyping – the testing and modelling of a technological alternative' was for everyone, not just scientists, designers or engineers (p. 2). On the threshold of the 2010s, the maker movement gained rapid popularity in China.

In her unique and fascinating account of this movement, Lindtner investigates the (non-linear) displacements of technological promise from the US to China, explaining how China – long perceived as a backwards 'other' incapable of innovating – has recently become seen as a 'prototype nation', a 'place to prototype alternatives to existing models of modern technological progress' (p. 6). Drawing on feminist anthropology, critical race studies, and science and technology studies, Lindtner analyses the genealogies of these discursive shifts and highlights their material consequences, including sexism, racism, colonialism, and labour exploitation. She argues compellingly that 'attending to the labour that is necessary to nurture and support the neoliberal project of self-economization (of converting the self into human capital) challenges the notion that neoliberal processes and capitalist expansion are inevitable' (p. 31).

The book unpacks with great ethnographic and historical detail the promises and ambivalences related to making, innovation and entrepreneurship. Chapter 2 describes the first Chinese coworking and hacker spaces, founded in Shanghai by a group of Chinese artists, bloggers, designers, engineers and entrepreneurs. Experimenting with American ideals of making, they aimed to prototype a future-oriented, innovative and entrepreneurial Chinese citizen, freed from images of lack and low quality. While this paradoxically aligned the interests of both the makers and the Chinese Communist Party (CCP), it simultaneously obscured the precarities of these 'new' ways of working, masking the CCP's own neoliberal agenda.

Focusing on leading actors related to Western networks of investment, open source hardware, the arts and design, Chapter 3 describes shifting attitudes in the global tech imaginary of China. Delving into the Special Economic Zone and *shanzhai* ('China's partially illicit and experimental production culture', p. 79), it shows how Shenzhen became rescripted as particularly promising for foreigners, a place to recuperate technology's broken promises in the aftermath of the financial crisis.

Chapter 4 portrays a foreign-funded hardware incubator programme in Shenzhen, and American university initiatives that teach participants to perceive themselves as human capital attractive to investors. It demonstrates that this is not a natural, inevitable outcome of neoliberal capitalism, but has to be actively taught, cultivated and learned.

Chapter 5 documents the gendered and racialised inequalities of these entrepreneurship training programmes, commonly concealed by promises of peer production, openness, and the good life. Advancing the concept of 'happiness labor', it shows how female and racial labour is being exploited to support the well-being of others, but also how it is being resisted.

Chapter 6 focuses on Shenzhen's manufacturing industry, including a study tour to Silicon Valley. It describes the CCP's appropriation of making, and the upgrades of selected urban spaces which the author contends were intended to induce a desire for self-transformation and improvement, serving the interests of the people and a forward-looking, happy nation. The chapter gives voice to both those who have succeeded in this endeavour and those who have so far been excluded.

The conclusion argues that, if we attend to the labour and sites that nurture and sustain entrepreneurial life, including the ongoing hidden challenges to colonial, racialised and gendered othering, we can notice the gaps and disrupt the 'seemingly endless cycles of progress and ruin, promise and violence' (p. 224).

Throughout this readable ethnography of China, Lindtner skilfully moves between times, places and scales, bringing together seemingly contradictory aspects in a coherent analysis. As an anthropologist studying

technological practices as a way to challenge dominant discourses, I particularly enjoyed the second half of the book. By including people from diverse geographic, ethnic and social backgrounds, Lindtner provides a thought-provoking and persuasive critique of neoliberal capitalism. The author's greatest achievement is – far beyond the Chinese case – to render visible and to powerfully question highly-ambivalent narratives of progress and techno-solutionism, and the (often-unfulfilled) promises of intervention and happiness that these entail. Instead, she draws our attention to the pervasive, pernicious structures underlying the global economy. Scholars such as Ching Kwan Lee and Pun Ngai have already raised awareness of the deleterious conditions in Chinese factories, but Lindtner deepens our understanding by revealing the less obvious inequalities in China's design, digital and entrepreneurial labour. Along the way, she forcefully challenges who, what and where counts as innovative. While this speaks to older questions that have already occupied earlier China scholars such as Joseph Needham, Lindtner provides an original and fresh look at the understudied industries that have emerged in the information age. This makes *Prototype Nation* highly innovative in itself, and a must-read for students and observers of contemporary China. Moreover, I recommend this book to all those concerned with processes of innovation and technological modernisation – not only academics, but also practitioners embedded in precisely these processes.

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Autobiographical note
Lena Kaufmann is a postdoctoral researcher at the Department of History and a research associate at the Department of Social Anthropology and Cultural Studies, both at the University of Zurich. Trained as an anthropologist and sinologist in Berlin, Rome and Shanghai, she spent nearly four years in China, researching the nexus of technologies, knowledge and migration. She is the author of *Rural-Urban Migration and Agro-Technological Change in Post-Reform China* (2021). Her current project focuses on fibre optic cables and network components, investigating complex socio-technical and politico-economic Sino-Swiss entanglements in digital infrastructures.